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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09/730,542	12/07/2000	Sang Kyu Ji	0655-0114P	9546

2292 7590 07/17/2002

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EXAMINER
WEBER, JON P

ART UNIT	PAPER NUMBER
1651	8

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Application No.	Applicant(s)
09/730,542	JI, SUNG KYU
Examiner	**Art Unit**
Jon P. Weber, Ph.D.	1651

Office Action Summary

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 April 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other

Status of the Claims

The response with amendments filed 02 April 2002 has been received and entered. Claims 1-3 have been presented for examination.

The examiner of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Jon P. Weber.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites that the protein is proteolyzed by protease at pH 3.5-6.0 whereas claim 1 from which it depends recites that the protein is proteolyzed by protease in deionized water at a neutral pH range. Hence, claim 2 is confusing and lacks antecedent basis. The pH range specified would not be considered to be in the neutral range by any person of ordinary skill in the art.

Claim Rejections - 35 USC § 103

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashmead (US 4,172,072).

Ashmead (US 4,172,072) discloses a process for making metal proteinate chelates, such as zinc chelate (claim 2) comprising the steps of:

1) protease catalyzed hydrolysis of proteins to provide a proteinate solution at neutral pH that has been sufficiently hydrolyzed that the major portion of the hydrolysates will be amino acids, dipeptides and tripeptides (column 4, lines 15-56),

2) adjustment of pH so that the proteinate is substantially unprotonated and soluble, 7.5 may be sufficient, but pH of 8-10 is preferred (column 5, lines 12-13),

3) combining the proteinate solution with the appropriate soluble metal salt to form the chelate complex (column 5)

4) the resulting metal chelate may be separated from the solution and dried (example 2).

The protein sources may be from animal or plant sources (column 4, lines 15-18) with many possible proteases (column 4, lines 18-21). The instantly claimed ratios are protein:water:enzyme of 100:800:2-4. In example 1, the weight ratios are 200:1000:2; hydrolysis was at 71 °C for 20 hours (papain was the protease). In example 2, the ratio is 45:85:0.5; hydrolysis was at 145 °C for 8 hours (ficin was the protease). In example 3, the ratio is 18:11:0.18; hydrolysis was at undisclosed temperature overnight (bromelain was the protease).

Ashmead (US 4,172,072) lacks specific exemplification of making the zinc proteinate, and slightly different times of proteolysis and weight ratios during the preparation.

A person of ordinary skill in the art at the time the invention was made would have been motivated to use any suitable protease, hydrolysis time or ratio to produce a proteinate suitable for forming zinc chelate because it can be seen that suitable proteinate hydrolysates are readily attained using a variety of ratios of protein:water:enzyme and incubation times and temperatures. That is, the specific time, temperature, ratios and enzyme are not critical, so long as the hydrolysis proceeds to the desire degree. It is clearly within the skill of the ordinary artisan to vary these parameters as needed. It is noted that the instant disclosure does not provide the temperature of the proteolysis nor the identity of the protease used. Further the degree of proteolysis achieved is not identified.

Although Ashmead (US 4,172,072) does not specifically exemplify preparing zinc proteinate, it is listed as one of five identified chelates, one of which, iron, is exemplified. In example 3, a mix of iron, zinc and copper was prepared as a proteinate chelate.

Hence, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to prepare a zinc proteinate chelate by the method of Ashmead (US 4,172,072).

No claims are allowed.

Other references cited by examiner but not relied upon are cited to establish the state of the art or are similar to the teachings of Ashmead (US 4,172,072).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon P. Weber, Ph.D. whose telephone number is 703-308-4015. The examiner can normally be reached on daily, off 1st Fri, 9 5 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Wityshyn can be reached on 703-308-4743. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Jon P. Weber, Ph.D.
Primary Examiner
Art Unit 1651

JPW
July 12, 2002